FIG. 1

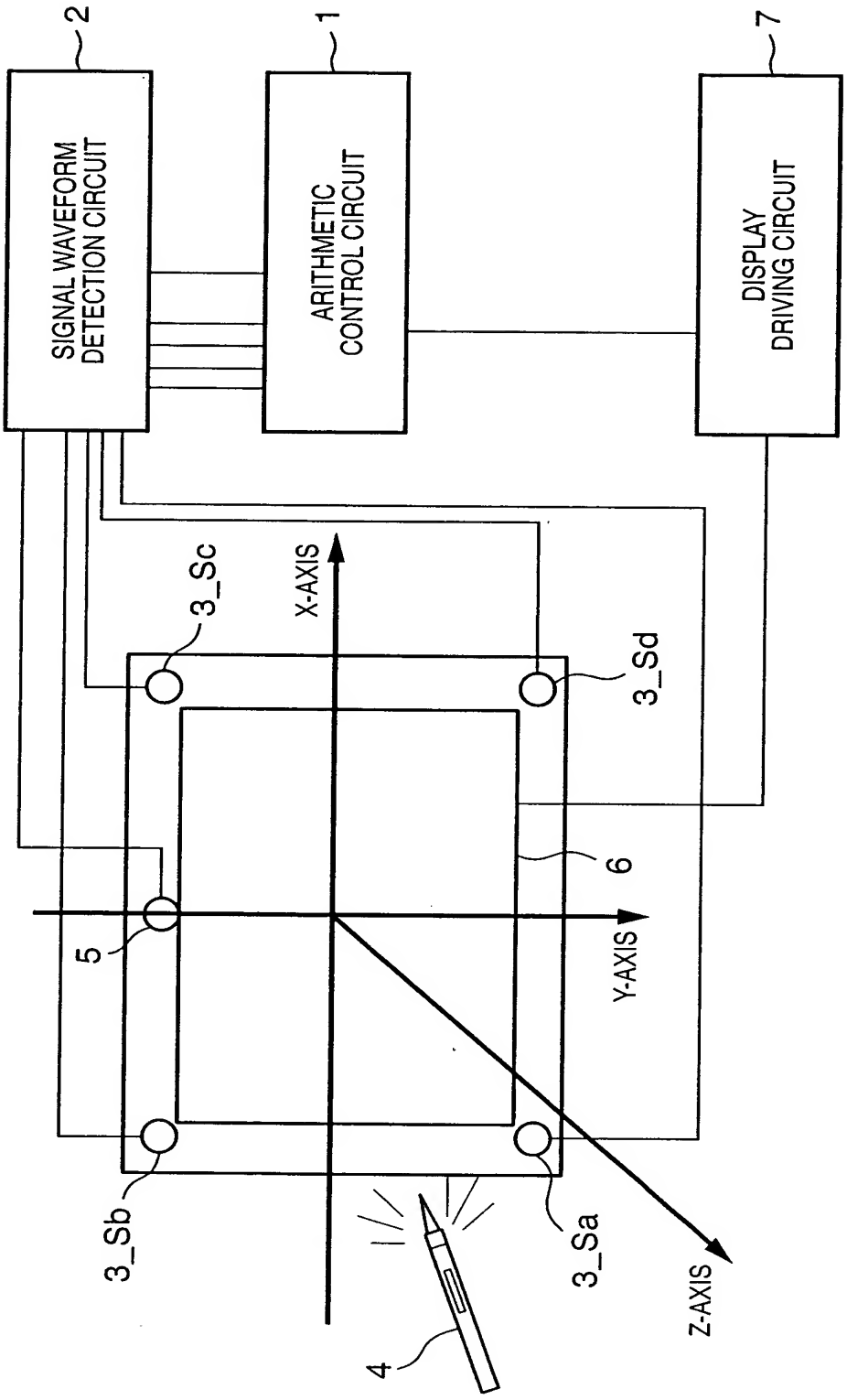

2
1
7
SIGNAL WAVEFORM DETECTION CIRCUIT
ARITHMETIC CONTROL CIRCUIT
DISPLAY DRIVING CIRCUIT
3_Sc
X-AXIS
3_Sd
6
5
Y-AXIS
3_Sb
3_Sa
Z-AXIS
4

FIG. 2

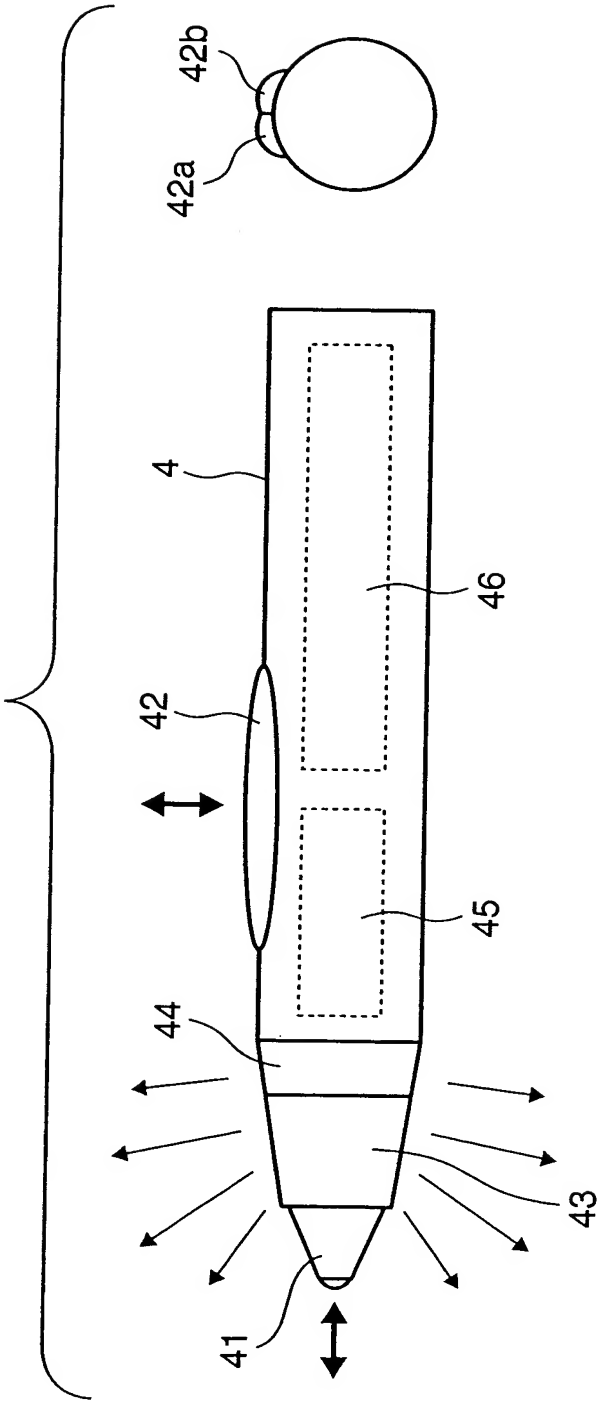


FIG. 3

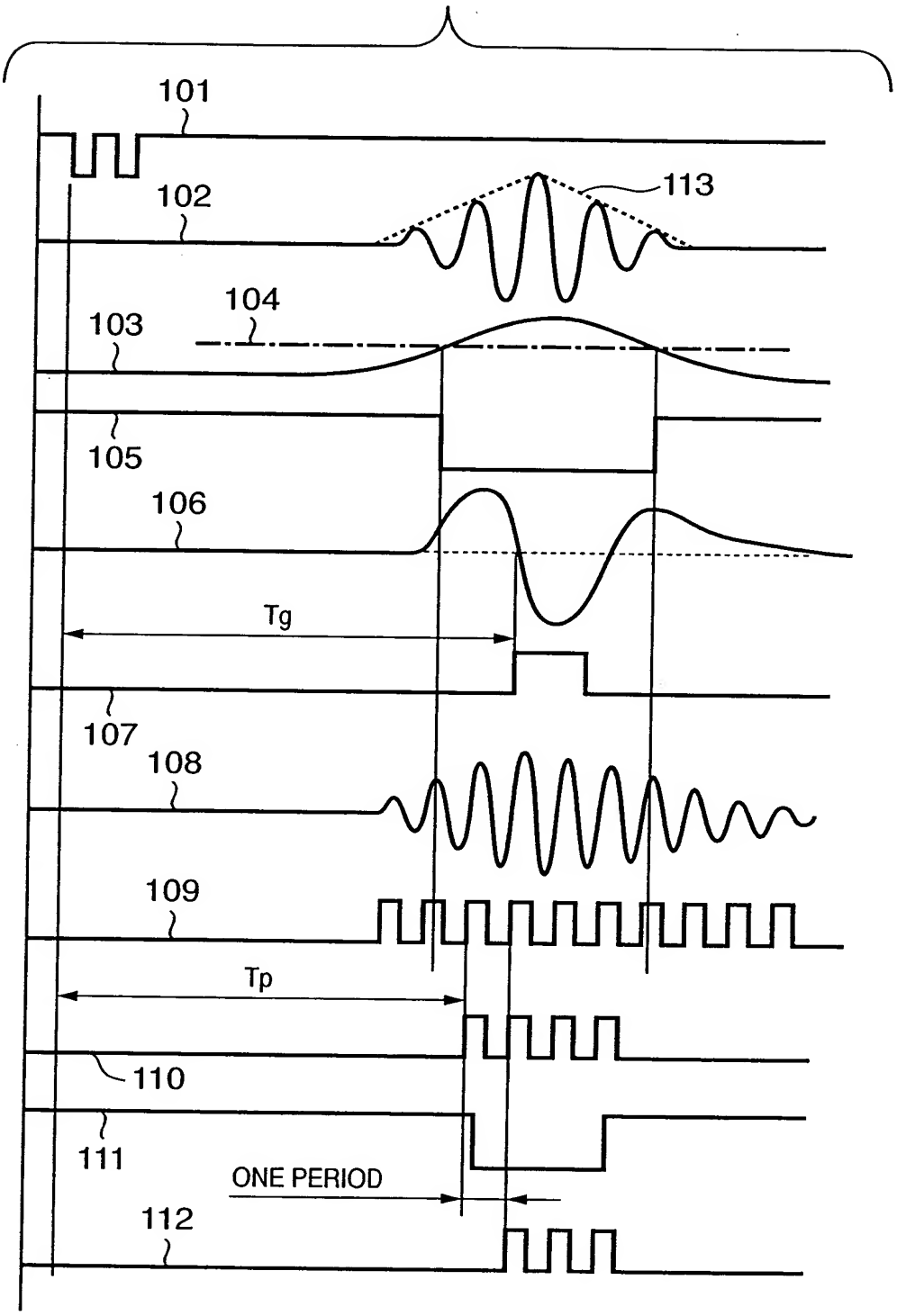

101
102
113
104
103
105
106
Tg
107
108
109
Tp
110
111
ONE PERIOD
112

FIG. 4

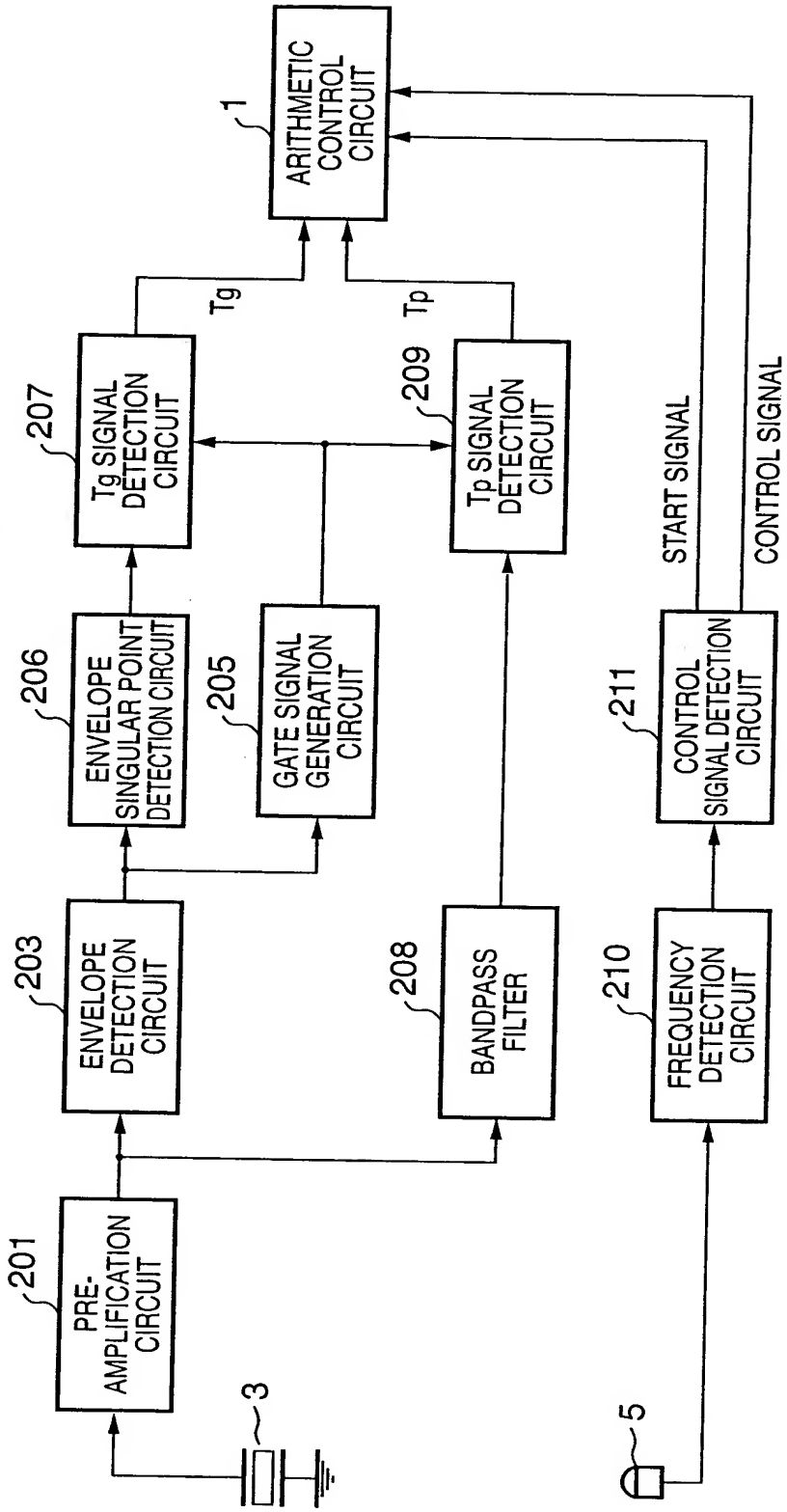

1
ARITHMETIC CONTROL CIRCUIT
Tg
Tp
207
Tg SIGNAL DETECTION CIRCUIT
209
Tp SIGNAL DETECTION CIRCUIT
START SIGNAL
CONTROL SIGNAL
206
ENVELOPE SINGULAR POINT DETECTION CIRCUIT
205
GATE SIGNAL GENERATION CIRCUIT
211
CONTROL SIGNAL DETECTION CIRCUIT
203
ENVELOPE DETECTION CIRCUIT
208
BANDPASS FILTER
210
FREQUENCY DETECTION CIRCUIT
201
PRE-AMPLIFICATION CIRCUIT
3
5

FIG. 5

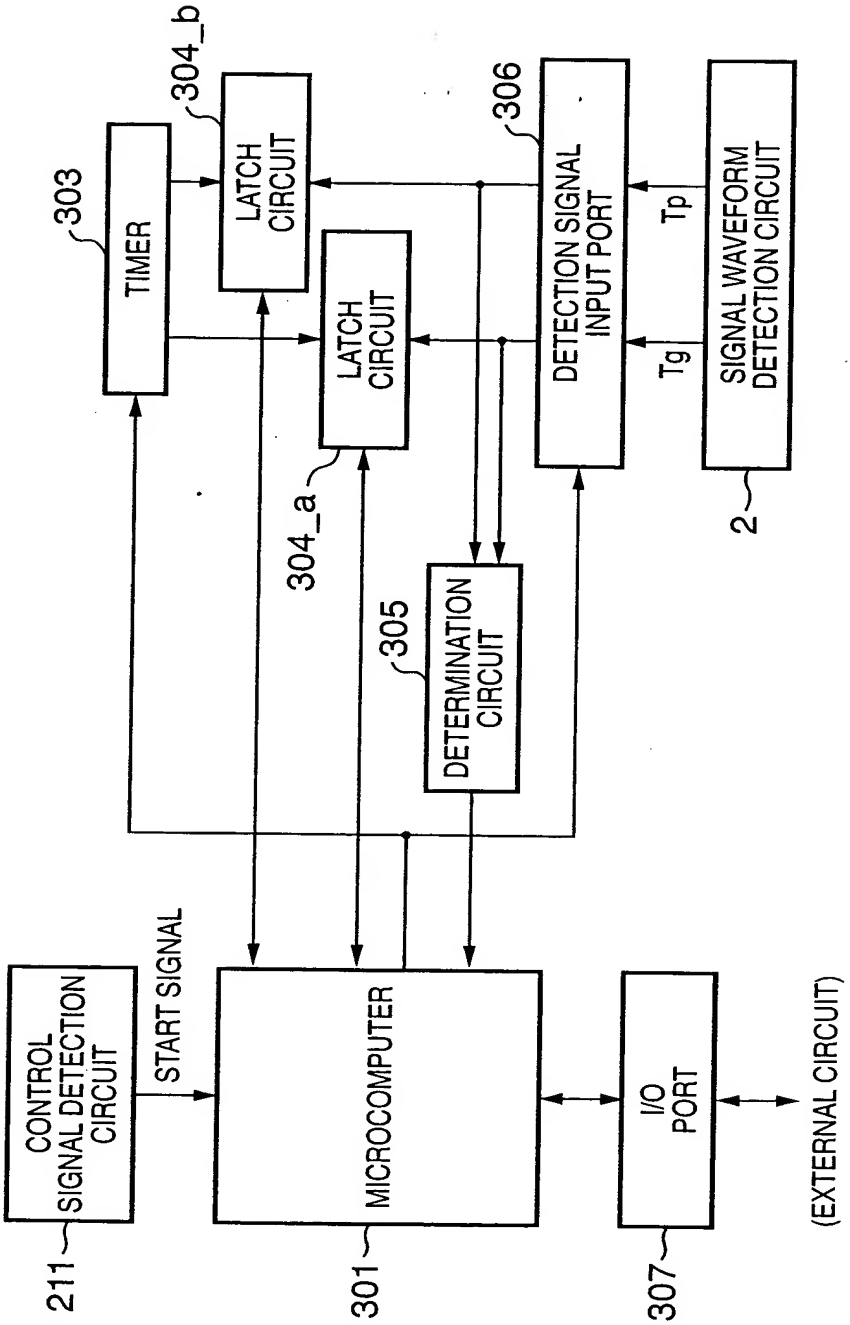

CONTROL SIGNAL DETECTION CIRCUIT
211
START SIGNAL
MICROCOMPUTER
301
TIMER
303
LATCH CIRCUIT
304_b
LATCH CIRCUIT
304_a
DETERMINATION CIRCUIT
305
DETECTION SIGNAL INPUT PORT
306
Tp
Tg
SIGNAL WAVEFORM DETECTION CIRCUIT
2
I/O PORT
307
(EXTERNAL CIRCUIT)

FIG. 6

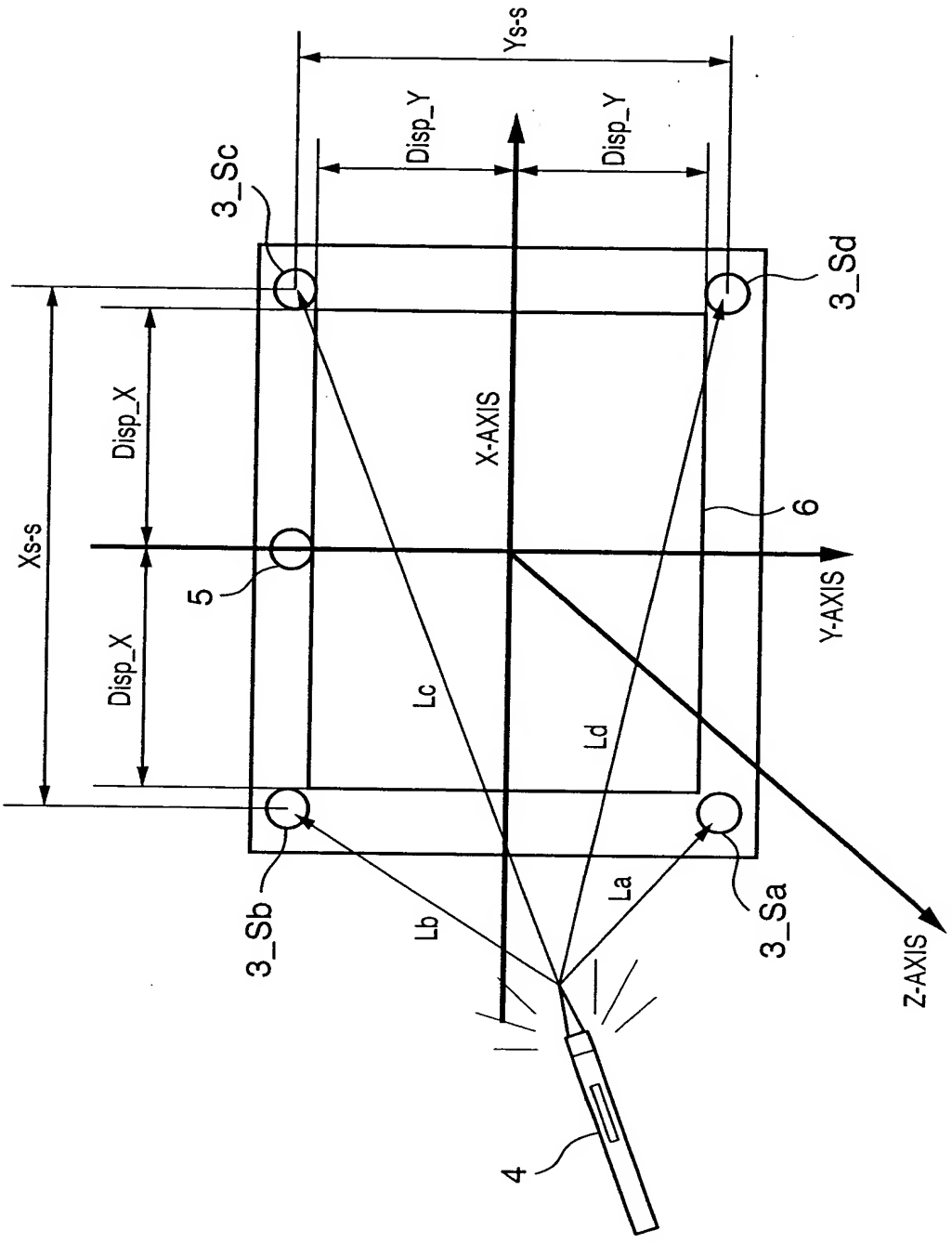

Ys-s
Disp_Y
Disp_Y
3_Sc
3_Sd
Xs-s
Disp_X
Disp_X
X-AXIS
6
5
Y-AXIS
Lc
Ld
3_Sb
Lb
La
3_Sa
Z-AXIS
4

FIG. 7

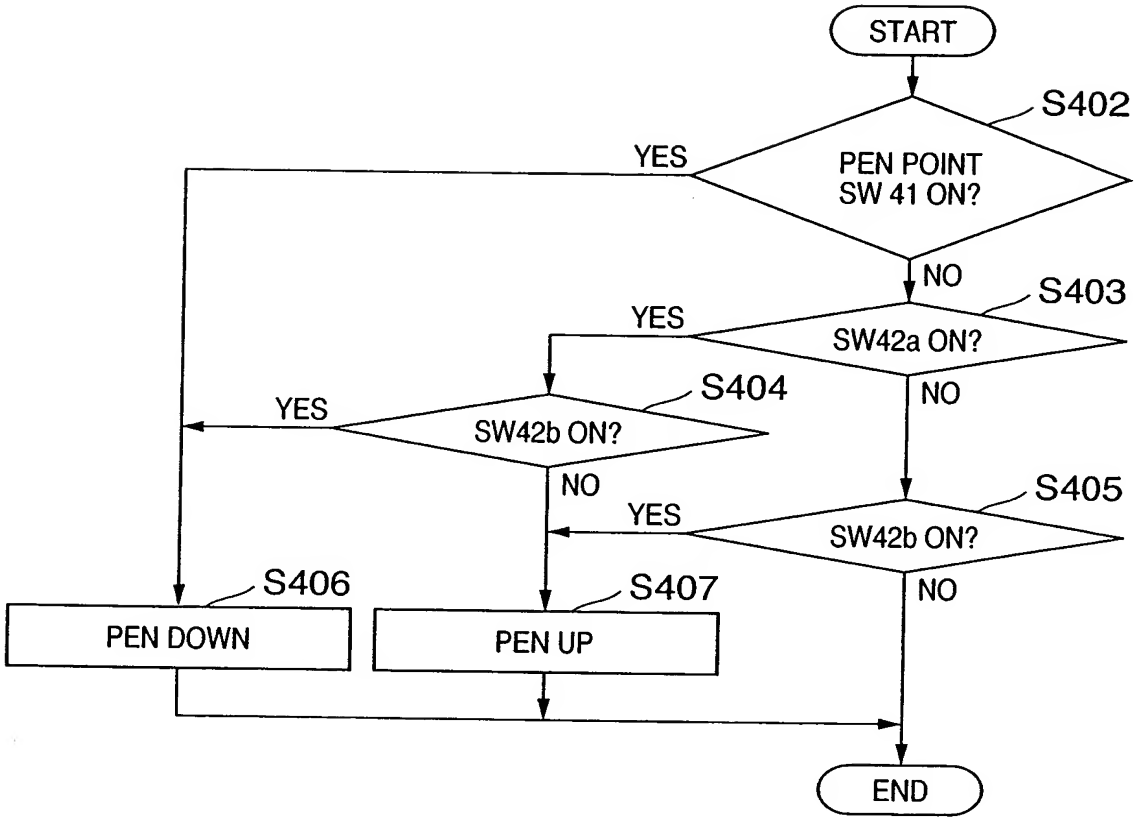

START
S402
PEN POINT SW 41 ON?
YES
NO
S403
SW42a ON?
YES
NO
S404
SW42b ON?
YES
NO
S405
SW42b ON?
YES
NO
S406
PEN DOWN
S407
PEN UP
END

FIG. 8

PEN OPERATION MODE			PEN POINT SW41	SW1 42a	SW2 42b	CALCULATED COORDINATE VALUE		OUTPUT COORDINATE VALUE	
	PEN UP	PEN DOWN				Z-DIRECTION	X- AND Y-DIRECTIONS	ABSOLUTE COORDINATE	RELATIVE COORDINATE
PEN INPUT	○		OFF	OFF	OFF			–	–
		○	ON	–	–	= 0	INSIDE AREA	○	
						= 0	OUTSIDE AREA	NG	NG
						≠ 0	–	NG	NG
PROXIMITY INPUT	○		OFF	ON	OFF	PREDETERMINED VALUE 1 OR LESS	INSIDE AREA	○	
							OUTSIDE AREA		○
	○		OFF	OFF	ON	PREDETERMINED VALUE 1 OR LESS	INSIDE AREA	○	
							OUTSIDE AREA		○
		○	OFF	ON	ON	PREDETERMINED VALUE 1 OR LESS	INSIDE AREA	○	
							OUTSIDE AREA		○
REMOTE INPUT	○		OFF	ON	OFF	PREDETERMINED VALUE 1 OR MORE	–		○
	○		OFF	OFF	ON	PREDETERMINED VALUE 1 OR MORE	–		○
		○	OFF	ON	ON	PREDETERMINED VALUE 1 OR MORE	–		○

FIG. 9

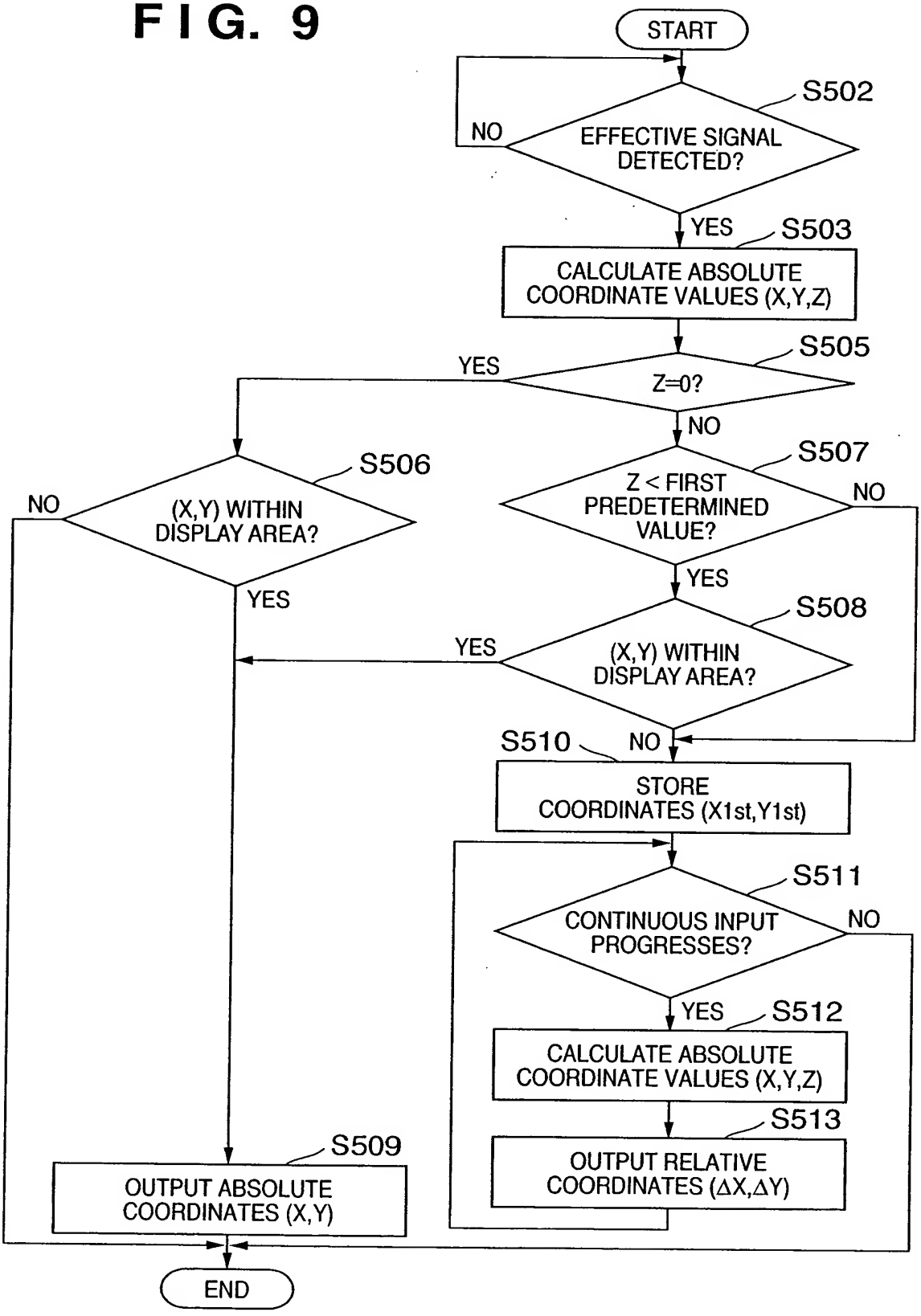

START
S502
NO
EFFECTIVE SIGNAL DETECTED?
YES
S503
CALCULATE ABSOLUTE COORDINATE VALUES (X,Y,Z)
S505
YES
Z=0?
NO
S506
S507
NO
(X,Y) WITHIN DISPLAY AREA?
Z < FIRST PREDETERMINED VALUE?
NO
YES
YES
S508
YES
(X,Y) WITHIN DISPLAY AREA?
S510
NO
STORE COORDINATES (X1st,Y1st)
S511
CONTINUOUS INPUT PROGRESSES?
NO
YES
S512
CALCULATE ABSOLUTE COORDINATE VALUES (X,Y,Z)
S513
OUTPUT RELATIVE COORDINATES (ΔX,ΔY)
S509
OUTPUT ABSOLUTE COORDINATES (X,Y)
END

FIG. 10

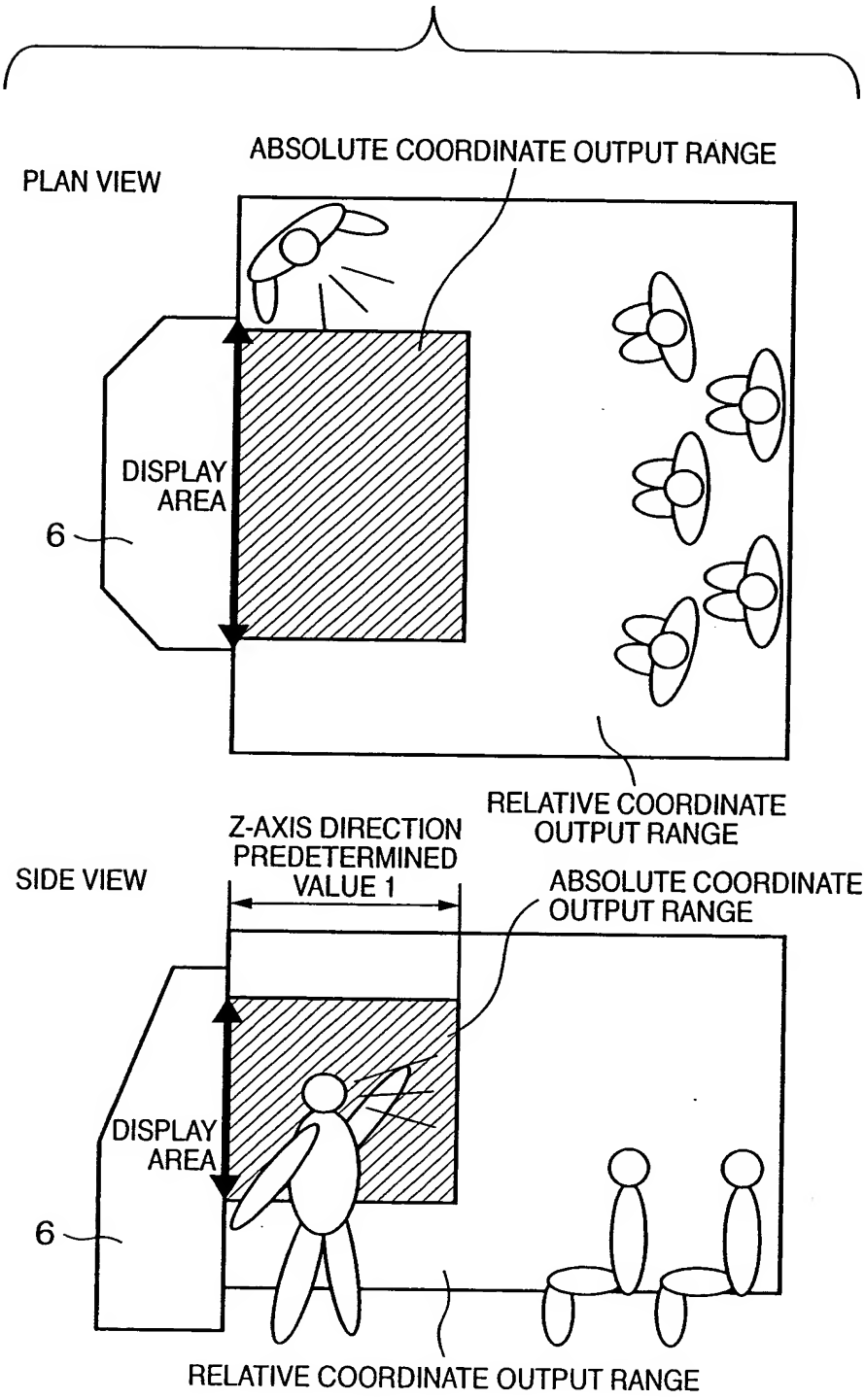

PLAN VIEW
ABSOLUTE COORDINATE OUTPUT RANGE
DISPLAY AREA
6
RELATIVE COORDINATE OUTPUT RANGE
SIDE VIEW
Z-AXIS DIRECTION PREDETERMINED VALUE 1
ABSOLUTE COORDINATE OUTPUT RANGE
DISPLAY AREA
6
RELATIVE COORDINATE OUTPUT RANGE

FIG. 11

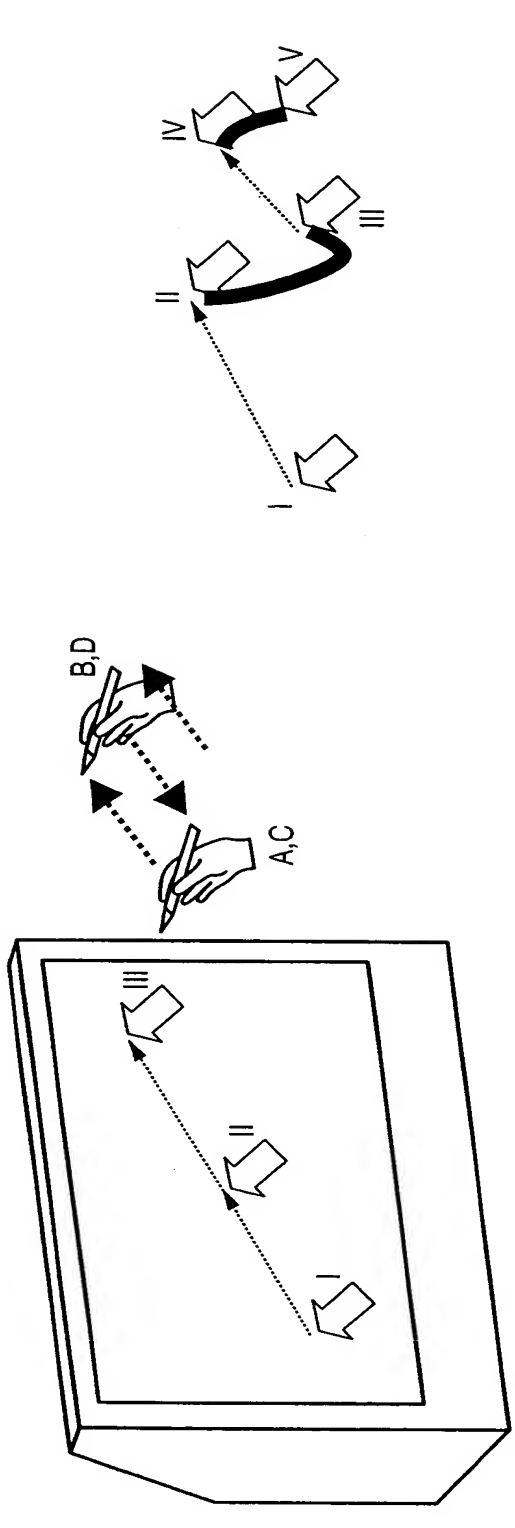


FIG. 12

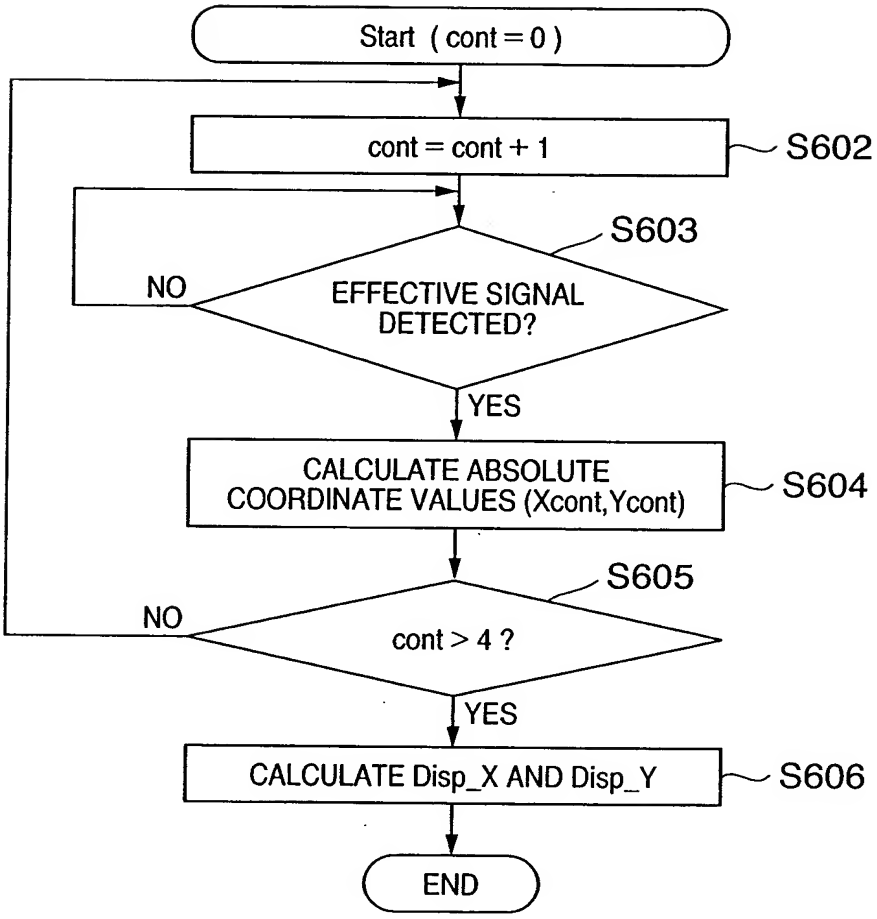

Start (cont = 0)
cont = cont + 1
S602
S603
NO
EFFECTIVE SIGNAL DETECTED?
YES
CALCULATE ABSOLUTE COORDINATE VALUES (Xcont,Ycont)
S604
S605
NO
cont > 4 ?
YES
CALCULATE Disp_X AND Disp_Y
S606
END

FIG. 13

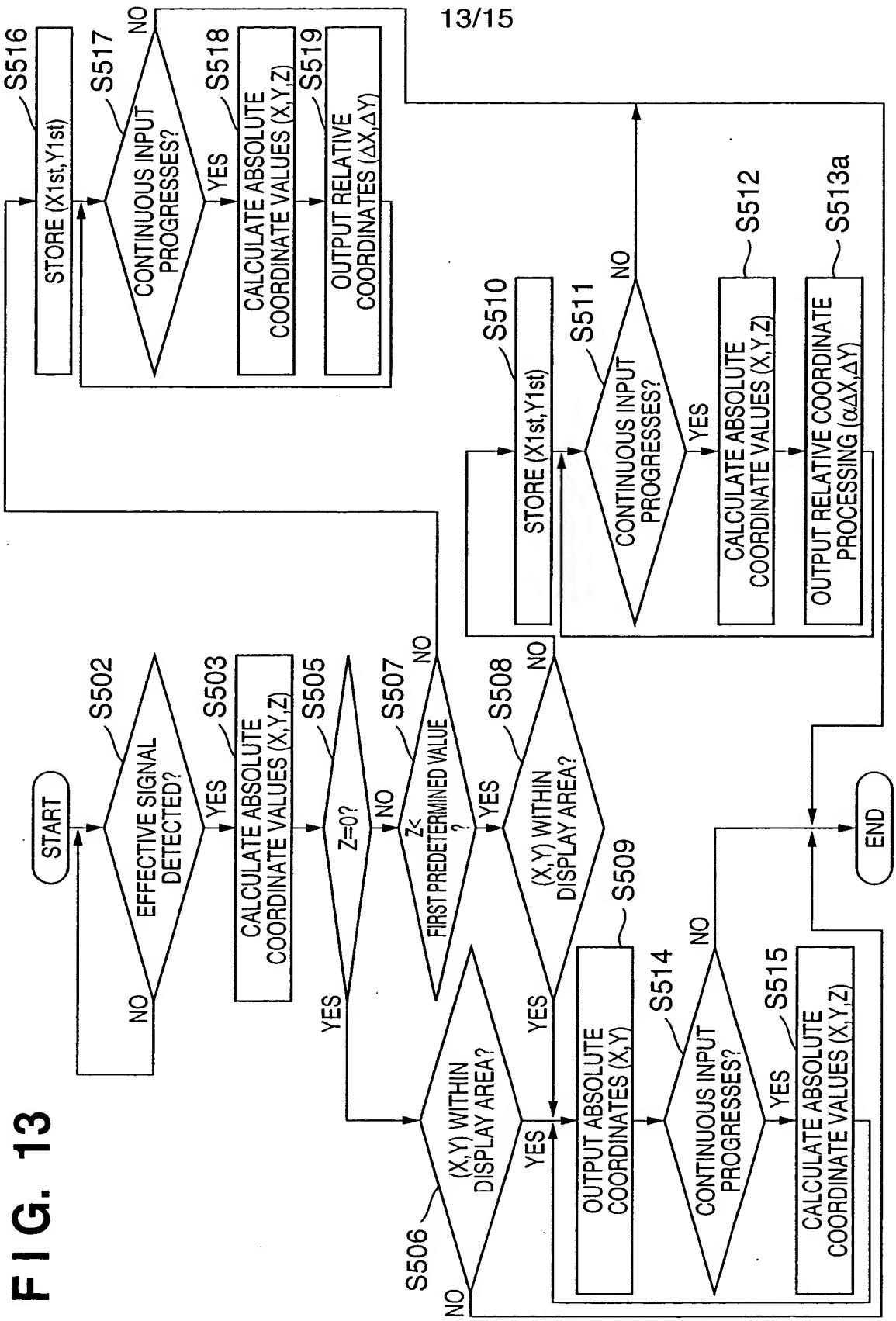

START
S502
EFFECTIVE SIGNAL DETECTED?
NO
YES
S503
CALCULATE ABSOLUTE COORDINATE VALUES (X,Y,Z)
S505
Z=0?
YES
NO
S507
Z< FIRST PREDETERMINED VALUE ?
NO
YES
S508
(X,Y) WITHIN DISPLAY AREA?
NO
YES
S509
OUTPUT ABSOLUTE COORDINATES (X,Y)
S506
(X,Y) WITHIN DISPLAY AREA?
NO
YES
S514
CONTINUOUS INPUT PROGRESSES?
NO
YES
S515
CALCULATE ABSOLUTE COORDINATE VALUES (X,Y,Z)
END
S516
STORE (X1st,Y1st)
S517
CONTINUOUS INPUT PROGRESSES?
NO
YES
S518
CALCULATE ABSOLUTE COORDINATE VALUES (X,Y,Z)
S519
OUTPUT RELATIVE COORDINATES (ΔX,ΔY)
S510
STORE (X1st,Y1st)
S511
CONTINUOUS INPUT PROGRESSES?
NO
YES
S512
CALCULATE ABSOLUTE COORDINATE VALUES (X,Y,Z)
S513a
OUTPUT RELATIVE COORDINATE PROCESSING (αΔX,ΔY)

FIG. 14

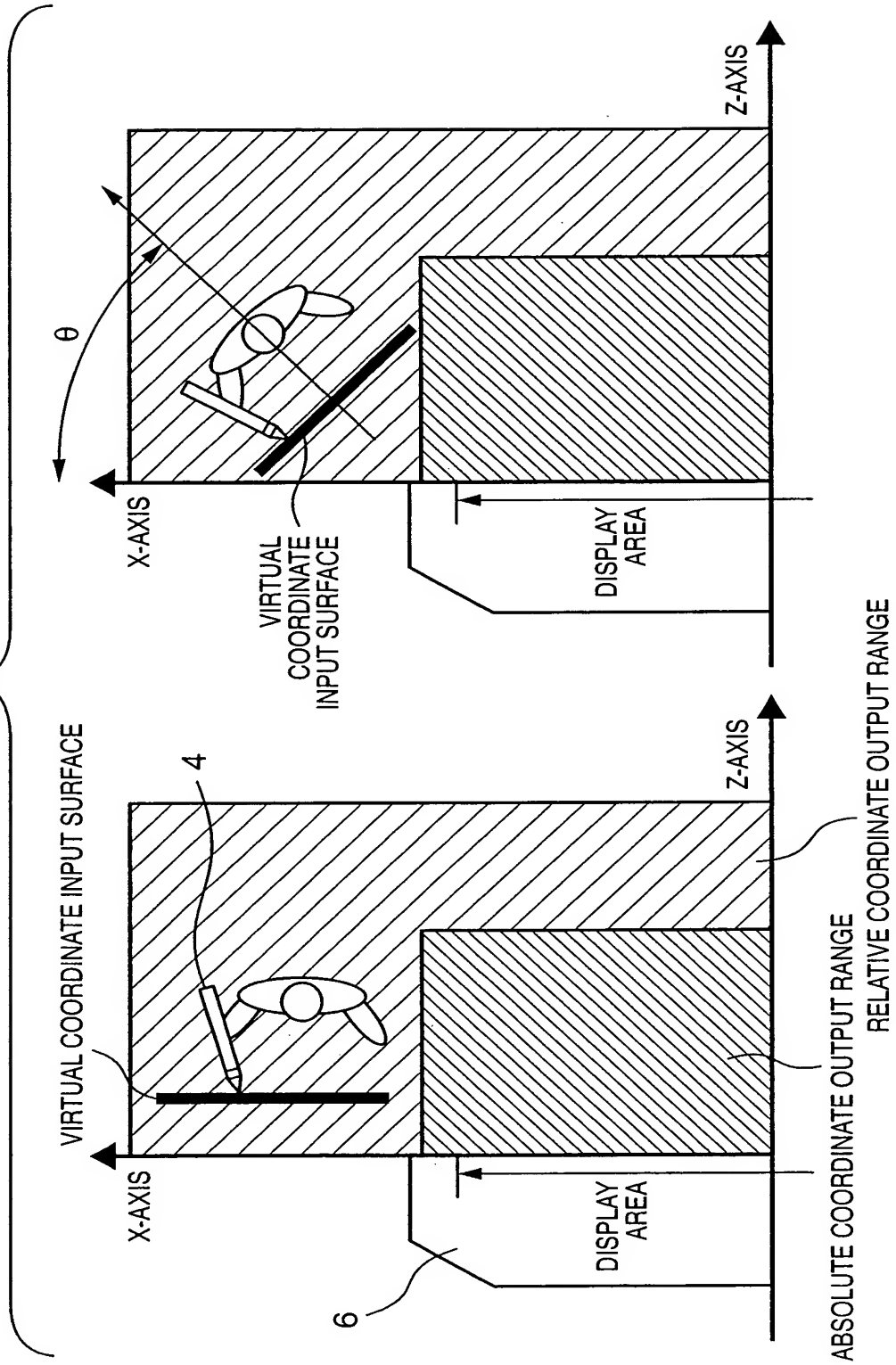
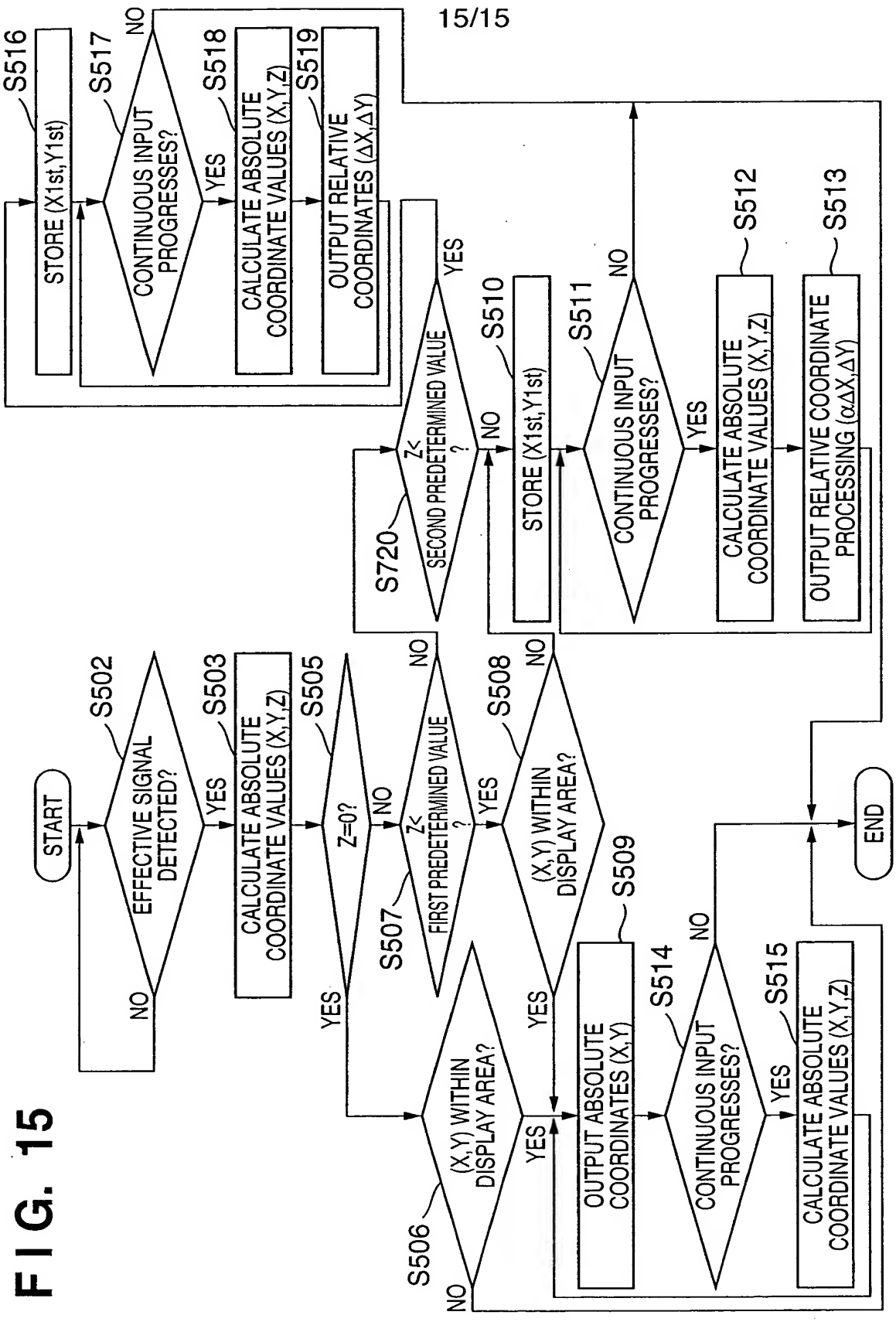

θ
X-AXIS
Z-AXIS
VIRTUAL COORDINATE INPUT SURFACE
DISPLAY AREA
VIRTUAL COORDINATE INPUT SURFACE
4
X-AXIS
Z-AXIS
DISPLAY AREA
6
ABSOLUTE COORDINATE OUTPUT RANGE
RELATIVE COORDINATE OUTPUT RANGE

FIG. 15


START
S502
EFFECTIVE SIGNAL DETECTED?
NO
YES
S503
CALCULATE ABSOLUTE COORDINATE VALUES (X,Y,Z)
S505
Z=0?
YES
NO
S507
Z< FIRST PREDETERMINED VALUE ?
NO
YES
S508
(X,Y) WITHIN DISPLAY AREA?
NO
YES
S509
OUTPUT ABSOLUTE COORDINATES (X,Y)
S506
(X,Y) WITHIN DISPLAY AREA?
NO
YES
S514
CONTINUOUS INPUT PROGRESSES?
NO
YES
S515
CALCULATE ABSOLUTE COORDINATE VALUES (X,Y,Z)
END
S720
Z< SECOND PREDETERMINED VALUE ?
NO
YES
S510
STORE (X1st,Y1st)
S511
CONTINUOUS INPUT PROGRESSES?
NO
YES
S512
CALCULATE ABSOLUTE COORDINATE VALUES (X,Y,Z)
S513
OUTPUT RELATIVE COORDINATE PROCESSING (αΔX,ΔY)
S516
STORE (X1st,Y1st)
S517
CONTINUOUS INPUT PROGRESSES?
NO
YES
S518
CALCULATE ABSOLUTE COORDINATE VALUES (X,Y,Z)
S519
OUTPUT RELATIVE COORDINATES (ΔX,ΔY)